



CITY OF HILLSBORO

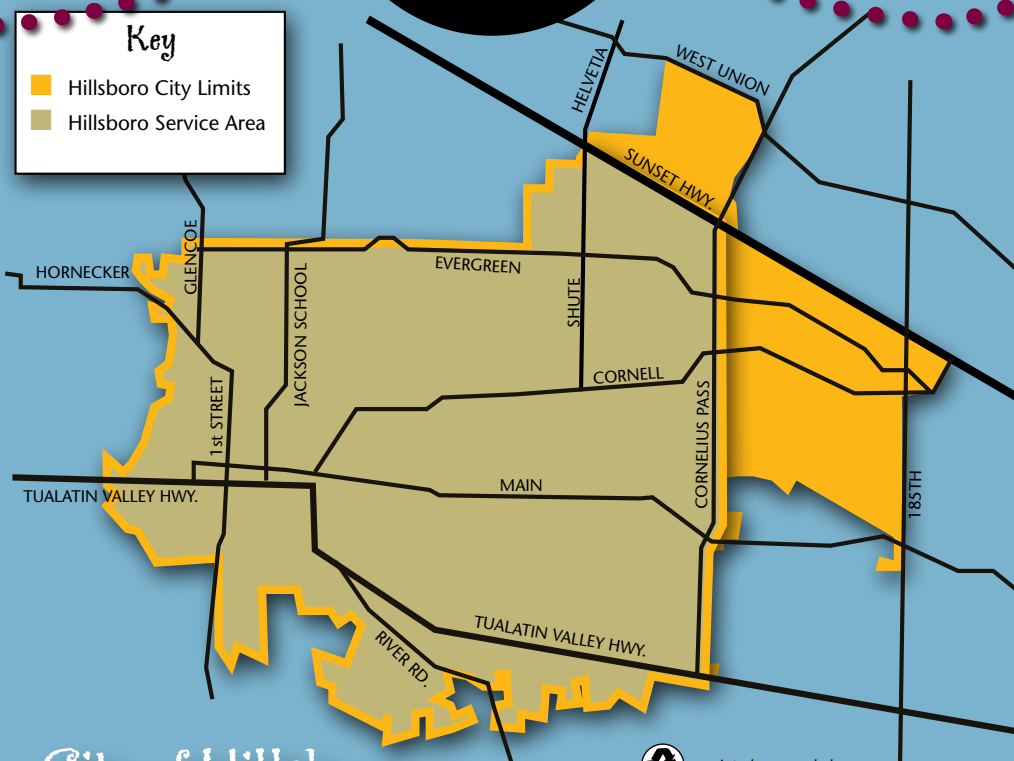
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POSTAL CUSTOMER

HEALTH PROTECTION  
INFORMATION INSIDE!

# YOUR hometown TAP



City of Hillsboro  
Water Service Area



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Service is also provided to over 600 rural  
customers in Western Washington County.

2011  
Water Quality Report

# YOUR hometown TAP



HILLSBORO, OREGON

Based on water quality data from the calendar year 2010

Providing Tualatin & Trask Basin drinking water  
to Hillsboro customers since 1940.

Este informe contiene información muy importante sobre su agua beber.  
Tradúzcalo ó hable con alguien que lo entienda bien.



# public health:

## OUR #ONE PRIORITY

*Hillsboro Water is committed to providing drinking water of high quality and excellent value to the community it serves.*

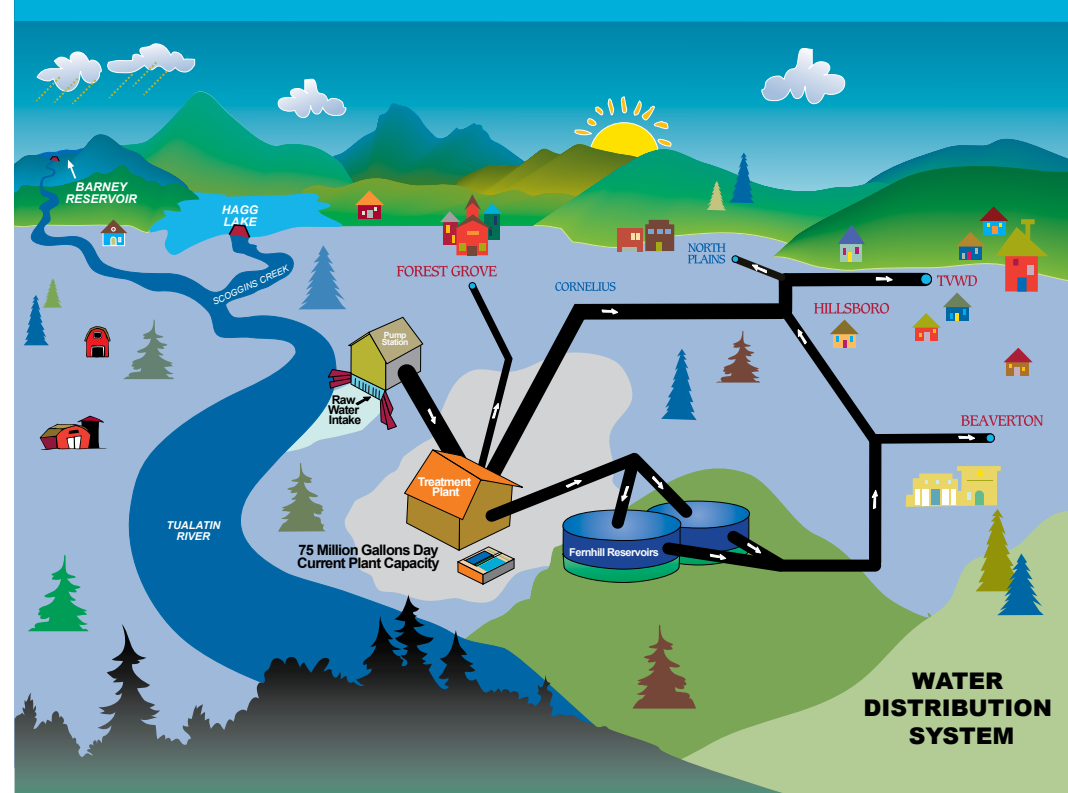
### COMMITMENT TO QUALITY

Since 1940, City of Hillsboro's goal has been to provide safe and high quality drinking water for all its water customers. To maintain our commitment to you, certified operators routinely collect and test water samples every step of the way - from source waters to your meter. Our treatment plants are maintained, evaluated and upgraded regularly to stay abreast of advancements in technology, health science and government regulations. Because of prudent long-term planning and operational efficiency, we are able to provide you with high-quality drinking water at the lowest rates in the region. For more information about this report, or for any questions relating to your drinking water, please call **Tacy Steele**, Water Programs Coordinator, at **503-615-6732**.

### WHERE DOES MY DRINKING WATER COME FROM?

All of the water that runs through your tap is treated surface water, which means it comes out of a river or reservoir. Hillsboro's winter water source is the upper Tualatin River. In summer, the river level drops too low to serve the City's needs, so Hillsboro relies upon water stored in the Barney Reservoir and Hagg Lake to meet customer needs. Hillsboro's water is drawn out of the upper Tualatin River for filtration and treatment at either the Cherry Grove Slow Sand Filter Plant (SSFP) or the Joint Water Commission (JWC) Treatment Plant. Both plants operate 24 hours per day, 365 days per year.

The SSFP can treat up to three million gallons per day (MGD), providing water to Cherry Grove, the City of Gaston, the L.A. Water Co-op, Scoggins Valley and Dilley. After treatment, SSF water flows through an 18-inch line to Dilley; along the way water is fed to Hillsboro's county and wholesale customers.



The JWC Water Treatment Plant (WTP) is the largest conventional water treatment plant in Oregon and is capable of treating up to 75 MGD. The WTP is owned by Hillsboro, Forest Grove, Beaverton, and Tualatin Valley Water District. It provides water to the owner agencies and also serves North Plains as a wholesale customer. The City of Cornelius also receives JWC water as a wholesale customer of Hillsboro.

The City of Hillsboro typically uses 14 MGD of combined JWC and SSFP capacities to meet customer needs, but summertime usage can push that demand up to almost 25 MGD, primarily due to outdoor watering habits.

The water is delivered to Hillsboro and beyond via two large transmission lines. There are approximately 250 miles of distribution lines in the city of Hillsboro that are fed by the transmission lines. These lines provide water to over 24,000 business and residential customers who live to the west of Cornelius Pass Road. The Tualatin Valley Water District serves Hillsboro residents living to the east of Cornelius Pass Road.





## MID-WILLAMETTE OPTIONS:

This option actually contains two alternatives for use of Willamette water near Wilsonville. The first alternative for this water source would require a Willamette River water treatment plant near Wilsonville. A new raw water intake would be constructed to serve the new treatment plant. A 20-mile pipeline would also be built to carry treated water to Washington County residents. The second alternative is similar to the first; however, it would require Hillsboro to partner with agencies that own existing infrastructure. Other agencies currently own a treatment plant that serves the City of Wilsonville and will soon serve the City of Sherwood. Hillsboro is analyzing if the existing raw water intake is large enough to meet the needs of a new or expanded treatment plant. In lieu of building its own intake, Hillsboro could enter into an agreement with the owners of the existing intake. In either case, drinking water providers would then work with Clean Water Services to meet its future flow restoration needs with water from Hagg Lake.

## OUR FUTURE, YOUR LEGACY:

Hillsboro's water supply for the next 50 years: Where will it come from? How much will it cost? How will that cost affect rates? What about water quality? How do you weigh cost against quality when both are extremely important to Hillsboro Water and its customers? Which option balances Hillsboro's water needs with the needs of other water suppliers in Washington County?

Participate in the discussion as these questions and more are analyzed, debated, and ultimately answered. Your input is vital as a decision is made that will impact everyone who lives or works in Hillsboro. Visit [www.hillsborowatersupply.org](http://www.hillsborowatersupply.org) and join the journey to a water supply future for Hillsboro.

## HAGG LAKE EXPANSION

Hagg Lake is already a summertime water source for Hillsboro residents. Winter water comes directly from the Tualatin River. For ten years, Hillsboro and its partners have explored expanding the size of Hagg Lake to meet our future needs, also known as the Tualatin Basin Water Supply Project. However, recent seismic issues have arisen that have significantly raised project costs.

## SOUTH WILLAMETTE OPTIONS:

This option is very similar to the Mid-Willamette Option with the exception of the location of the intake facilities and pipeline routes. Hillsboro is analyzing the costs and feasibility of building a water treatment plant on the Willamette River near the city of Newberg. The water would then be piped to the JWC system either along a western route that would connect to the west side of the JWC transmission system or an eastern route that would connect to the east side of the JWC service area.

## NORTHERN WELL FIELD:

In some areas of the lower Willamette Basin groundwater is abundant. Hillsboro is analyzing the cost and feasibility of using groundwater as a long term water supply strategy. Groundwater also isn't as expensive to treat and leaves valuable surface water in our streams for fish and wildlife.

## PORTLAND AGREEMENT:

Could Bull Run and Columbia South Shore Well Field water meet our region's needs? This project addresses that question along with the cost and feasibility of transporting water all the way across the metro region through Washington County to Hillsboro.



## EPA WATER CONTAMINANT INFORMATION

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

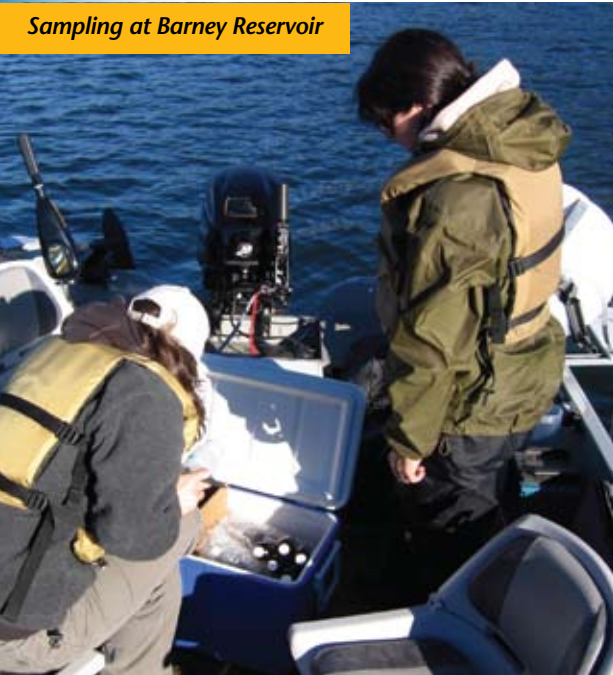
In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

*Contaminants that may be present in source water include:*

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Sampling at Barney Reservoir



- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

## 5 THINGS WE DO TO KEEP YOUR WATER SAFE:

**1) System Monitoring:** Hillsboro uses telemetry (a remote computer system) to continuously monitor key points in the system and relay information back to the water treatment plant where operators are on duty 24 hours per day, 365 days per year.

**2) System Testing:** Hillsboro has a sampling schedule and weekly samples are pulled and sent to an independent laboratory for coliform and E.coli testing. Testing for approximately 200 other substances takes place on a schedule as required by the Environmental Protection Agency's Safe Drinking Water Act.

**3) Closed System:** Once your drinking water has been filtered, it enters a system that is completely enclosed and protected from outside exposure until it flows out a tap. Hillsboro has two enclosed tanks for water storage within its service limits.

**4) Chlorine Residual:** Hillsboro maintains a chlorine residual throughout its system. A residual is a small amount of chlorine that remains in the water to kill any micro-organisms that come into contact with your drinking water after treatment.

**5) Positive Pressure:** Water pipes are under continuous pressure, either from gravity or pumping. The pressure pushes the water to your tap and also ensures that harmful substances can't be sucked into the pipe.

## MICROBIALS

Hillsboro staff collect weekly samples from throughout the service area to test for coliform bacteria. Most coliforms are not harmful, but they can be an indicator that other disease-causing organisms may be present. If testing indicates that a routine sample appears to contain coliforms, a set of repeat samples is collected and analyzed to determine whether any disease-causing organisms are present. Though coliforms (non-fecal) were detected once in 2010, follow-up testing determined that no disease-causing organisms were present.

*Cryptosporidium* and *Giardia* are microscopic organisms that, when ingested, may cause gastrointestinal symptoms. There are no EPA-mandated maximum contaminant levels (MCLs) required for either *Giardia* or *Cryptosporidium*. However, because of the potential health effects of these organisms, the City of Hillsboro regularly tests for them in its water before and after treatment. Though very small amounts of these organisms were present in the pre-treatment samples, no *Cryptosporidium* or *Giardia* cysts were detected in the treated water.

## BE PREPARED!

In the event of a prolonged power outage, or a disaster such as an earthquake, water service may be disrupted or water rationing imposed. Be prepared by ensuring that you and your family have an ample supply of clean water. A recommended amount is one gallon per person per day, for at least 3 days. Remember to include water for your family pets.



Source Water Protection is a Priority

## INFORMATION ABOUT LEAD + COPPER

While there is no MCL for lead or copper, the federal government identifies “action levels” that trigger certain actions by the water provider. The action level is based on the 90th percentile. This means that 90 percent of the samples must meet or be under the defined action level. The action level for copper is 1.3 ppm and the action level for lead is 15 ppb.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Hillsboro Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for thirty seconds to two minutes before using water for drinking or cooking.

## UNREGULATED CONTAMINANT MONITORING RULE

The Joint Water Commission, of which Hillsboro Water (HW) is a partner, has complied with the EPA's unregulated contaminant monitoring rule (UCMR) and results are available upon request from HW's Resource Division. No unregulated contaminants have been detected through the rigorous monitoring process. Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. For more information, please call Kristel Fesler, Water Resources Technician, at **(503) 615-6735**.

## SOURCE WATER ASSESSMENT

The Department of Environmental Quality (DEQ) and the Oregon Health Authority (OHA) completed a source water assessment that identified the surface areas supplying water to the Tualatin River intakes. They also inventoried the potential contaminant sources that may affect the water supply. A total of 306 potential contaminant sources were identified and 295 of those sources are located in sensitive areas. Sensitive areas include places with high soil permeability, high soil erosion potential, high run-off potential, and areas within 1,000 feet of a river or stream. Potential sources of watershed contamination include the following: agricultural/forest management applications, commercial land uses, residential/municipal land uses, and landslide and clear-cut forest areas. These are the existing potential sources of contamination that could, if improperly managed or released, affect the water quality in the watershed. The JWC-Cherry Grove Source Water Assessment Report provides additional details on the methodology and results of this assessment. The full report is available for review at the Hillsboro Water Department, 150 East Main Street, Hillsboro, or call 503-615-6702 for more information.

## HILLSBORO'S HOMETOWN TAP:

Hillsboro Water debuted its sustainable water distribution system, the Hillsboro Hometown Tap (Tap), at Celebrate Hillsboro in July 2010. On that 90+ degree day, over 5,000 people used the Tap station to stay hydrated with chilled drinking water.

The Tap was designed and built by the Water Department, with artwork from local Mooberry Elementary student, Allyson Thompson, gracing the front. Not only was the Tap a hit with local event-goers, it also won a Best-in-Show Award at the Pacific Northwest American Water Works Association Conference.

You and your family are encouraged to bring refillable water bottles to summer events in Downtown Hillsboro. Refillable bottles made of steel, aluminum, or hard plastic are sustainable options that reduce waste in the environment. Filling a bottle with high-quality tap water also ensures you are drinking water from a local source. For summer activities, be sure to include a refillable bottle along with your sunglasses and sunscreen on your checklist of outdoor essentials. Look for the big, blue water banner at events to find the Hometown Tap and refill your bottle as often as you like – for free!



**FEEL GOOD  
ABOUT FILLING UP!**

**Hillsboro's  
Hometown Tap!**

2010

## SAMPLING RESULTS

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants.

This table shows only those contaminants that were detected and how much of the substance was present in the water. All of the substances listed are well under the Maximum Contaminant Level (MCL).

## REGULATED SUBSTANCES

| Substance<br>(Unit of Measure)                                 | Year<br>Sampled | MCL<br>(MRDL)                  | MCLG<br>(MRDLG) | Hillsboro<br>System        |                   | Upper<br>System            |                   | Violation? | Typical Source                             |
|--|-----------------|--------------------------------|-----------------|----------------------------|-------------------|----------------------------|-------------------|------------|--|
|  |                 |                                |                 | Highest Levels<br>Detected | Range<br>Low-High | Highest Levels<br>Detected | Range<br>Low-High |            |  |
| Chlorine (CL <sup>2</sup> )<br>(ppm)                           | 2010            | (4)                            | (4)             | 1.31                       | 0.89-1.31         | 1.67                       | 1.0-1.67          | No         | Water additive used<br>to control microbes |
| Nitrate (as Nitrogen)<br>(ppm)                                 | 2010            | 10                             | 10              | 0.8                        | ND-0.8            | ND                         | ND                | No         | Natural deposit<br>erosion                 |
| Total Coliform<br>Bacteria (% positive samples)                | 2010            | 5% monthly<br>samples positive | 0               | 1%                         | NA                | ND                         | NA                | No         | Naturally present<br>in environment        |
| Turbidity (NTU)  | 2010            | TT                             | NA              | 0.06                       | .03-.06           | 0.144                      | .067-.144         | No         | Soil Run-off                               |
| Turbidity (NTU)<br>(Lowest monthly % of samples meeting limit) | 2010            | TT                             | NA              | 100%                       | NA                | 100%                       | NA                | No         | Soil Run-off                               |

## DISINFECTION BY-PRODUCTS (DBP)

|  |      |    |    |      |           |      |           |    |                               |
|--|------|----|----|------|-----------|------|-----------|----|-------------------------------|
| Haloacetic Acids<br>[HAA] (ppb)        | 2010 | 60 | NA | 39.3 | 19.1-39.3 | 24.7 | 10.4-24.7 | No | By-product of<br>chlorination |
| TTHMs (ppb)<br>[Total Trihalomethanes] | 2010 | 80 | NA | 45.3 | 17.5-45.3 | 24.4 | 12.3-24.4 | No | By-product of<br>chlorination |

HAA's and TTHMs are measured quarterly at four Hillsboro sites for JWC & one site for the SSFP. Results are reported as a running annual average.

## LEAD AND COPPER TESTING

| Substance<br>(Unit of Measure) | Year<br>Sampled | Action<br>Level | MCLG | Amount<br>Detected<br>90th %tile | Sites<br>Above<br>AL | Amount<br>Detected<br>90th %tile | Sites<br>Above<br>Action Level | Violation? | Typical Source  |
|--------------------------------|-----------------|-----------------|------|----------------------------------|----------------------|----------------------------------|--------------------------------|------------|---|
| Copper<br>(ppm)                | 2009            | 1.3             | 1.3  | 0.06                             | 0                    | 0.34                             | 0                              | No         | Corrosion household<br>plumbing; Natural<br>deposit erosion |
| Lead                           | 2009            | 15              | 0    | 0                                | 0                    | 14                               | 0                              | No         |   |

## TAP WATER SAMPLES WERE COLLECTED FROM SAMPLE SITES THROUGHOUT THE COMMUNITY.

- **AL=Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- **MCL=Maximum Contaminant Level:** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **MCLG=Maximum Contaminant Level Goal:** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **MRDL=Maximum Residual Disinfectant Level:** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **MRDLG=Maximum Residual Disinfectant Level Goal:** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

- **ND=Not Detected**
- **NTU=Nephelometric Turbidity Units** - Measurement of the clarity, or turbidity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **ppb=Parts Per Billion** - One part substance per billion parts water (or micrograms per liter).
- **ppm=Parts Per Million** - One part substance per million parts water (or milligrams per liter).
- **TT=Treatment Technique** - A required process intended to reduce the level of a contaminant in drinking water.
- **Turbidity** - Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the plant filtration system.



## REPORTING OF COMPLIANCE DATA VIOLATIONS

Hillsboro Water failed to sample enough routine coliforms in April 2010. The Drinking Water Program requires the collection of 70 routine coliform samples per month. However, due to an oversight, only 69 samples were collected in April. A new monitoring and scheduling system has been implemented, which should prevent this type of monitoring oversight from happening in the future.

## FREQUENTLY ASKED QUESTIONS

- **Does Hillsboro put fluoride in the water?** The City of Hillsboro does not fluoridate its water supply. Check with your dentist to see if supplemental fluoride is recommended for your family.
- **Is Hillsboro's water hard or soft?** Hillsboro does not use any well water in its supply, so the water is very soft, about 2-3 grains per gallon.
- **What is the pH of our drinking water?** Hillsboro's water is buffered to reduce pipe corrosion and protect against lead and copper exposure. The normal pH range for your drinking water is 7.7 to 7.9.



## IMPORTANT HEALTH INFORMATION

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline **(800-426-4791)**.

## COMMUNITY PARTICIPATION

The City of Hillsboro Utilities Commission normally meets at 1:30 p.m., on the 2nd Tuesday of every month in the Civic Center at 150 E. Main Street, Room 207. Commission meetings are open to the public. Agendas are listed at [www.ci.hillsboro.or.us](http://www.ci.hillsboro.or.us), or call **503-615-6702**.

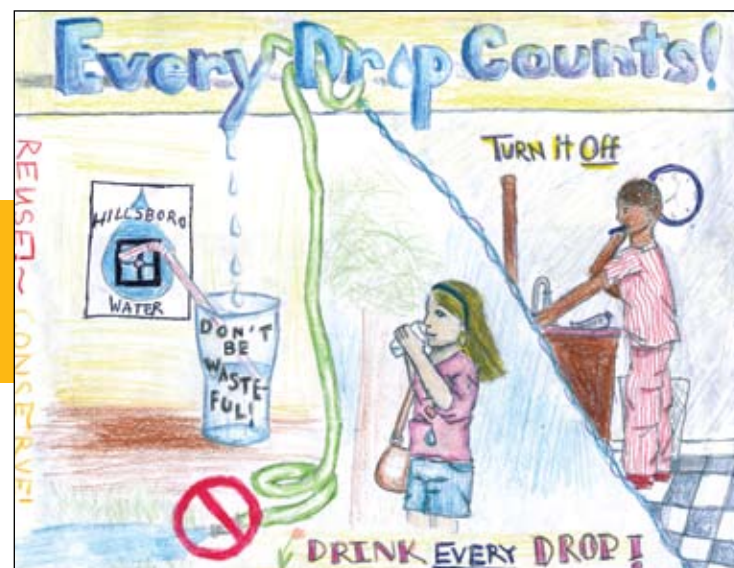


Hillsboro Water Department Staff

## WHAT'S HAPPENIN' AT HILLSBORO WATER?

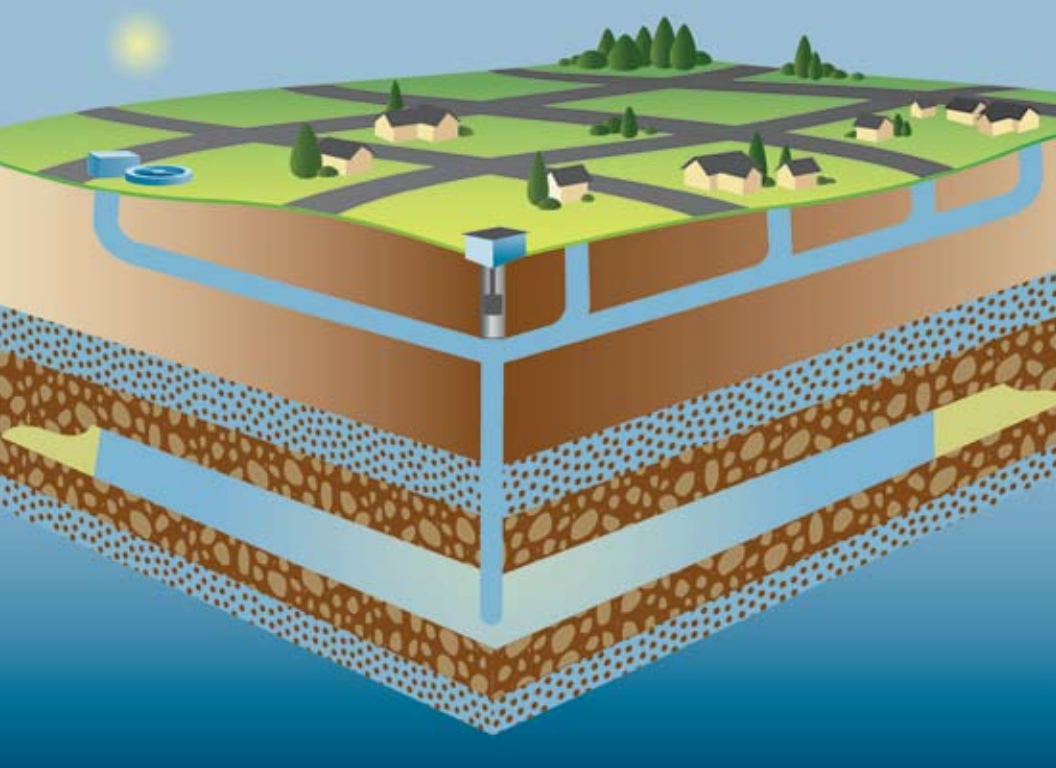
**Public Hearing:** The City of Hillsboro Utilities Commission (UC) will be holding a public hearing on July 12, 2011, at 1:30 p.m., in Room 113B of the Hillsboro Civic Center, 150 E. Main, Hillsboro. The UC will be considering a proposed 6.5% water rate increase, which would be implemented October 1, 2011, if approved.

**Calendar Contest:** Hillsboro Water (HW) hosted its 8th Annual Water Calendar Contest at Hillsboro Elementary Schools. The theme for this year's contest was "Hillsboro Water: Make Every Drop Count" and students were encouraged to illustrate that concept. Fifteen schools participated, which was a new record and included almost every school in Hillsboro served by HW. Winners included students from grades K-6, who creatively and artistically illustrated ways to make every water drop count in Hillsboro. The calendar is printed in the fall and usually distributed to schools early December. Calendars are also available to the general public at the Civic Center during the month of December and until supplies run out.



2012 Calendar  
Cover by  
Sarah Mohimah,  
Brookwood Elementary  
Grade 6





## AQUIFER STORAGE AND RECOVERY (ASR):

Hillsboro Water (HW) depends on the Tualatin River for its water supply the majority of the year (approximately from November to June). HW typically uses about 14 million gallons a day (MGD), but during the summer months that demand almost doubles (due to outdoor irrigation), and use can approach 25 MGD. Unfortunately, the river supply runs opposite of demand. During the months of lowest demand, especially late winter/early spring, supplies are plentiful and rainfall and runoff can be so heavy that the river overflows its banks. Very little of the river water can be stored so it just flows away. Then summer comes around and the river drops. Hillsboro and its water supply partners must release water that has been stored in Hagg Lake and Barney Reservoir to meet demand.

The development of aquifer storage and recovery (ASR) wells will allow Hillsboro and its Joint Water Commission (JWC) partners to inject some of the excess winter flow into the ground and then pump it out in the summer when the river is low. The JWC partners have identified ASR as a potential bridge to meeting their long term supply needs. Estimates indicate that potential exists to develop ASR capacity that could provide the JWC service area, including Hillsboro, with up to 18 million gallons of water per day in the summer when it is most needed. Although it is important to note that ASR alone cannot meet JWC's future storage needs, the additional capacity it provides will be a cost-effective means to defer the financial investments that Hillsboro and its partners will eventually need to make, in order to develop more expensive water supply sources.

## WILL CRANDALL RESERVOIR NAMED IN HONOR OF LONGEST-SERVING COMMISSIONER:

Commissioner Will Crandall retired in December 2010 after spending 29+ years providing direction and oversight to the Hillsboro Water Department (HW) as one of three commissioners on the City of Hillsboro Utilities Commission (UC). Crandall is the longest-serving UC Commissioner ever

During Crandall's tenure, the City's population has increased from 29,000 residents to more than 90,000. Water demand has increased as well – from an average of 3.8 million gallons of water per day (MGD) to 14 MGD.

As Chair, Crandall led the Commission and HW through many large-scale projects. These include construction of north and south transmission lines, water treatment plant expansion projects, and expansion of the Barney Reservoir from 4,000 to 20,000 acre feet.

To honor former Commissioner Crandall and his accomplishments, the Utilities Commission is naming Hillsboro's newest drinking water reservoir the "Will Crandall Reservoir." Design is underway now, and construction of this reservoir will begin in 2012, at a site near Evergreen and Glencoe Road. Like Commissioner Crandall, the reservoir, once built, will serve Hillsboro for a long time.

